

REMARKS

Claims 1-28, 30-38, and 40-47 are pending.

Claims 1-28, 30-38, and 40-47 stand rejected.

Claims 1 and 28 have been amended for clarity to correct minor, grammatical informalities.

Claim Rejections - 35 U.S.C. § 103

Claims 1, 2, 4, 6, 11, 17, 18, 19, 22-34, 37-39, 41-45, and 47 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Guerrero-U.S. Patent No. 6,236,400 (referred to herein as "*Guerrero*") in view of Chaudhuri et al.-U.S. Patent No. 6,212,526 (referred to herein as "*Chaudhuri*"). Applicants respectfully traverse the rejection.

Applicants respectfully submit that the Examiner has not established a *prima facie* case of obviousness.

The Federal Circuit has stated that:

The combination of elements from non-analogous sources, in a manner that reconstructs the applicant's invention only with the benefit of hindsight, is insufficient to present a *prima facie* case of obviousness. There must be some reason, suggestion, or motivation found in the prior art whereby a person of ordinary skill in the field of the invention would make the combination. That knowledge can not come from the applicant's invention itself. *In re Oetiker*, 977 F.2d 1443, 24 USPQ 2d 1443, 1446 (Fed. Cir. 1992).

Guerrero addresses a problem associated with the display of file hierarchies of file systems NOT of databases of the type related to the present invention. Namely:

Computer operating systems store information in files on a storage medium that is accessible via a file system. A file system organizes the contents of a storage device such that a user can determine the contents of the storage device. To organize files, a file hierarchy is adopted by some operating systems' file systems. Existing operating systems are inefficient in the manner in which the file hierarchy is displayed for review. For example, existing operating systems

continue to display information that is no longer relevant to the user. *Guerrero*, col. 1, lines 12-21.

Guerrero teaches that:

Embodiments of the invention provide a method and apparatus for controlling the display of hierarchical information. Hierarchical information is displayed efficiently such that information that is no longer needed is not displayed. There is no requirement that hierarchical levels through which the user has previously navigated be displayed. There is no need for the user to perform maintenance on the display to close expanded levels. Embodiments of the invention minimize the amount of display space that is wasted by prior art techniques. *Id.*, col. 3, lns. 38-47.

All of *Guerrero*'s teachings clearly relate to a "file system" context and NOT to a database context with features as set forth in the claims of the present application, e.g. "displaying database classifiers" (Claim 1) "presenting database classifiers organized by hierarchy levels" (Claim 11) "a database having information classified by non-homogeneous classifiers organized as a root node and multiple sub-nodes" (Claim 18).

Guerrero does state that:

In one embodiment of the invention, a vertical browser is used to display hierarchical information. The vertical browser is described herein with reference to displaying hierarchical file system information. However, it should be apparent to one of ordinary skill that the vertical browser described with reference to one or more embodiments of the invention can be used to display any type of hierarchical information. *Guerrero.*, col. 6, lns. 38-46.

However, *Guerrero*'s attempt at broadening his invention *cannot* expand *Guerrero*'s teachings beyond what they teach. *Guerrero* does not include any teachings regarding databases of the type related to the present invention.

Chaudhuri does not make any suggestion that file systems should be used for guidance in displaying database classifiers. The teachings of the prior art find significant distinctions between file systems and databases. For example, "ITEC 3220 – Using and designing Database Systems" Power-point Presentation, December 1996, York University (submitted in an IDS accompanying this Response along with a courtesy copy attached to this response) with particular reference to pages 19, 27, 38, and 41, clearly distinguishes between the flat file

systems and database classifiers. File systems have a fixed hierarchy. Database classifiers do not necessarily have a fixed hierarchy. *Chaudhuri* teaches that the internal “decision trees can use many measures for selection, [such as] information entropy.” *Chaudhuri*, col. 9, lines 8-10.

Thus, since (1) significant differences exist between the naturally hierarchical file systems and the selective hierarchy of database classifiers and (2) *Chaudhuri* does not make any suggestion that file systems should be used for guidance in displaying database classifiers, Applicants respectfully submit that there is no reason, suggestion, or motivation found in the prior art whereby a person of ordinary skill in the field of the invention would make the combination of the **non**-user displays of database classifiers in *Chaudhuri* and the file system displays of *Guerrero*.

Even assuming *arguendo* that combining *Guerrero* and *Chaudhuri* is proper, the teachings of *Chaudhuri* neither teach nor suggest presenting any hierarchical display of database classifiers to a user, and, thus, the combination of *Guerrero* and *Chaudhuri* can neither teach nor suggest hierarchical display of database classifiers to a user. Applicants respectfully submit that to suggest that the decision trees in Figures 3A and 3B of *Chaudhuri* are intended for display to a user is take the teachings of *Chaudhuri* out of their proper context.

Chaudhuri relates to a “method and apparatus for the construction of a classification model (for example a decision tree) from data in a large database.” *Chaudhuri*, Abstract. The “goal [of *Chaudhuri*] is to build a model classifier to predict class values based on” other attributes in a table. *Chaudhuri*, col. 4, lns. 35-36. For example, referring to Table 2 in col. 4, the class values represent profitability and the other attributes are, for example, Store Type, Region, and Location-type.

Chaudhuri does include example decision trees in Figs. 3A and 3B. However, *Chaudhuri* does not teach that the decision trees of Figs. 3A, 3B, or the like are ever displayed or presented to a user. The purpose behind depicting the decision trees of Figs. 3A and 3B is to illustrate how the model constructor 20 **internally** builds a decision tree. *Chaudhuri* specifically states that, “The illustrative model constructor 20 builds a decision tree.” *Id.*, col. 8, lines 12-13.

“An example decision tree 100 for the records contained in Table 1 is shown in FIG. 3A.” *Id.*, col. 8, lines 13-14.

Chaudhuri describes the function of the model constructor 20 as using “the counts from the counts table built during one of the scan steps 306, 310, or 314 to split the nodes into other nodes as well as declaring nodes to be leaf nodes with the class probabilities assigned to the leaf nodes.” *Id.*, col. 14, lines 19-23. “[E]ach leaf node has associated with it a classification prediction: a prediction of what values of the class variable are to be found at the leaf.” *Id.*, col. 8, lines 22-24. *Chaudhuri* goes into further detail to describe the model constructor 20:

The model constructor 20 receives as input data the data and attribute descriptors of the data records stored within the database via a database management system interface 26. This information characterizes the data and in the illustrative embodiment of the invention allows the model generator to control the splitting of data within the database into subsets of data that will produce the classifier 14. The model constructor then makes a request 27 for the counts tables for these subsets. The scheduler 22 responds to the splitting of data by scheduling subsets of data for further evaluation and the counts generator 24 produces a counts table for each of the subsets of data and sends the counts table 28 back to the model constructor 20. *Id.*, col. 7, lines 23-35.

Chaudhuri provides additional examples of the operation of model constructor 20 in other sections of the *Chaudhuri* patent. Ultimately, *Chaudhuri* teaches that the model constructor 20 is able to declare “nodes to be leaf nodes with the class probabilities assigned to the leaf nodes” and achieve the goal of *Chaudhuri*. *Id.*, col. 14, lines 19-23.

Applicants’ purpose for presenting the above discussion of model constructor 20 is to demonstrate that the decision trees depicted in Figures 3A and 3B are intended to help one of ordinary skill in the art better understand the inner workings of model constructor 20. Applicants respectfully submit that ***Chaudhuri* neither teaches nor suggests how to, nor provides any reason to, display database classifiers to a user. Accordingly, there is no reason, suggestion, or motivation to combine the decision trees in Figures 3A and 3B, which merely illustrate an internal process and are not intended for user display, with the file system display of Guerrero.** Thus, the combination of *Guerrero* and *Chaudhuri* fail to teach or suggest the present invention as recited in independent Claims 1, 11, 18, 22, 28, 38, and 43.

Specifically, claim 1 recites in part:

A user interface for displaying database classifiers organized with multiple hierarchy levels, the user interface comprising:

a root node navigation bar representing a root hierarchy level of the multiple hierarchy levels; and

multiple sub-node navigation bars stacked below the root node navigation bar, each sub-node navigation bar representing a sub-node from a selected level of the multiple hierarchy levels, wherein multiple sub-nodes represent database classifiers of database objects and a plurality of sub-nodes in the multiple hierarchy levels represent the same database classifier representing the same database object;

wherein the sub-node navigation bars display sub-nodes on the path from the root hierarchy level to the one or more sub-nodes having the lowest selected hierarchy level and wherein the user interface hides siblings of the displayed sub-nodes for the hierarchy levels between the root level and the hierarchy level of the one or more sub-nodes having the lowest selected hierarchy level.

Specifically, claim 11 recites in part:

displaying a first hierarchy level having a first hierarchy database classifier label;

displaying a second hierarchy level having multiple second hierarchy database classifier labels;

activating one of the second hierarchy database classifier labels;

displaying information associated with the activated database classifier label or a third hierarchy level having multiple third hierarchy database classifier labels; and

hiding display of the unactivated second hierarchy database classifier labels;

wherein multiple database classifier labels represent database objects and a plurality of database classifier labels in multiple hierarchy branches are the same database classifier label representing the same database object.

Specifically, claim 18 recites in part:

a database having information classified by non-homogeneous classifiers organized as a root node and multiple sub-nodes;

a display operable to present a user interface;

a control interfaced with the database and the display, the control operable to generate a user interface for presentation on the display, the user interface having the root node and predetermined sub-nodes stacked from highest to lowest hierarchy levels, the user interface further operable to hide predetermined sub-nodes that are not relevant to the sub-node having the lowest hierarchy level.

wherein multiple sub-nodes represent database classifiers of database objects and a plurality of sub-nodes in the multiple hierarchy levels are the same database classifier representing the same database object.

Specifically, claim 22 recites:

A program product for displaying hierarchy levels of database classifiers that organize the database classifiers with multiple nodes, the program product comprising:

a storage medium that stores computer readable instructions; and

instructions stored on the storage medium, the instructions operable to command a computer to display selected nodes from first, second or third hierarchy levels, the instructions selecting for display the nodes of the first and second hierarchy levels display only the nodes of the first and second hierarchy levels on a traversed path to the third hierarchy level, wherein multiple nodes represent database classifiers of database objects and a plurality nodes in the hierarchy levels represent the same database classifier representing the same database object.

Specifically, claim 28 recites:

An electronic display of database classifiers organized with multiple hierarchy levels, the electronic display comprising:

a visual representation of a tree data structure having a root node and multiple descendant nodes; and

a visual representation of an index of data associated with a selected descendant node;

wherein the visual representation of the tree data structure displays the descendant nodes on the traversed path from the root node to the selected descendant node and conceals siblings of the descendant nodes on the traversed path; and

wherein multiple descendant nodes represent database classifiers of database objects and a plurality of descendant nodes in the multiple hierarchy levels represent the same database classifier representing the same database object.

Specifically, claim 38 recites in part:

A combination tree data structure and index capable of electronic visual display of database classifiers organized by hierarchy levels, the combination tree data structure and index comprising:

a tree data structure having one or more nodes associated with each hierarchy level; and

an index of selected information associated with a selected one of the nodes, the index having a plurality of indices, each of the plurality of indices capable of displaying predetermined parts of the selected information,

wherein the siblings of the selected node and the siblings of the ancestors of the selected node are not displayed; and

wherein multiple sibling nodes represent database classifiers of database objects and a plurality of sibling nodes in the hierarchy levels represent the same database classifier representing the same database object.

Specifically, claim 43 recites in part:

displaying a tree structure having a plurality of nodes representing database classifiers;

selecting a node;

displaying the tree structure with only the selected node and the direct ancestors of the selected node; and

displaying an index associated with the selected node, the index having a plurality of indices, each of the plurality of indices having associated information representing a database object;

wherein multiple sibling nodes represent database classifiers of database objects and a plurality of sibling nodes in the hierarchy levels represent the same database classifier representing the same database object.

Since, (1) *Guerrero* does not anticipate the present invention as established in the previous office action response and in the present office action on page 9, (2) *Chaudhuri* alone clearly does not anticipate the present invention, (3) the combination of *Guerrero* and *Chaudhuri* is improper for lack of motivation to combine, and (4) even if the Examiner disagrees with (3), the combination of *Guerrero* and *Chaudhuri* neither teach nor suggest the present invention, Applicants respectfully request withdrawal of the rejection of independent claims 1, 11, 18, 22, 28, 38, and 43. Applicants also respectfully requests withdrawal of the rejection of the dependent claims for at least the same reasons as the independent claims upon which each indirectly or directly depends.

Claims 5, 8-10, 15 and 46 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Guerrero* in view of *Chaudhuri et al.*- U.S. Patent No. 6,212,526 (hereinafter “*Chaudhuri*”), and further in view of *Chittu et al.*-U.S. Patent Publication No. 2002/0107892 (hereinafter “*Chittu*”).

Claim 7 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over *Guerrero* in view of *Chaudhuri* and further in view of Lindberg et al.-U.S. Patent No. 6,732,109 (hereinafter "*Lindberg*").


Claims 3, 12-14, 20-21, 35-36 and 40 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Guerrero* in view of *Chaudhuri* and further in view of Janes et al.-U.S. Patent No. 6,642,946 (hereinafter "*Janes*").

Claim 16 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over *Guerrero* in view of *Chaudhuri* and further in view of *Janes* as applied to Claim 12, and further in view of *Chittu*.

The rejection of claims 3, 5, 7, 8-10, 12-14, 15, 20-21, 35-36, 40, and 46 are respectfully, collectively traversed. Applicants respectfully submit that dependent claims 3, 5, 7, 8-10, 12-14, 15, 20-21, 35-36, 40, and 46 are allowable for at least the same reasons as the independent claim upon which each directly or indirectly depends.

CONCLUSION

In view of the amendments and remarks set forth herein, the application is believed to be in condition for allowance and a notice to that effect is solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, the examiner is requested to telephone the undersigned.

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Respectfully submitted,



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